

LOWBER TREATMENT IRON REMOVAL AND SYSTEM UPGRADES

Growing Greener Grant Document#201912193164

Sponsor: Westmoreland Conservation District

PROJECT DESCRIPTION: The Westmoreland Conservation District partnered with Sewickley Creek Watershed Association who owns and maintains the Lowber Passive Mine Drainage System. The project was originally installed in 2006 and treats a large flow of iron (Fe) – contaminated mine water. The system has restored good water quality to the lower Sewickley Creek and has contributed to the restoration of the Youghiogheny River. The iron is removed from the water and becomes sludge as it settles out in multiple settling basins. The accumulation of sludge lessens the retention time in the system and eventually decreases its treatment effectiveness. System monitoring as well as visual observations indicated that the system's performance had declined. Removal of sludge from the system is necessary to sustain the environmental benefits the system provides.

PROJECT GOALS: The primary goal of the project was to improve and sustain the effectiveness of the treatment system. The improvement was to accomplish this through the removal of iron sludge from 2 settling basins, which increased retention time of mine water in the system and increase the Fe-removal efficiency. The secondary goal was to maintain the vegetation around the cells to facilitate proper operation of the facility.

PROJECT RESULTS: We worked with Hedin Environmental to remove the existing iron sludge (dry) pile. This pile was from the past sludge basin clean-out performed in 2020. In all, nearly 1000 tons was removed from the site. Some of the iron was distributed to Hoover Color to be used as pigment for their products. An additional 950 tons was pumped out of 2 of the treatments basins and stored on-site in geotubes. This removal of sludge provides the system with an increased 1,500,000 gallons of retention time.

IRON SLUDGE BEING AGITATED INTO A SLURRY SUITABLE FOR PUMPING



PROJECT COSTS: \$151,891 Department of Environmental Protection Growing Greener Grant

LESSONS LEARNED: Partnerships and community support are vital in working together towards a common goal and vision.

PARTNERS: Sewickley Creek Watershed Association and Hedin Environmental

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